

MAMMALS

COLLECTED BY THE MEMBERS OF THE HUMBOLDT BAY- AND THE
MERAUKE RIVER-EXPEDITIONS.

BY

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With plate XVI.

The Committee for the publication of the results of the two New Guinea expeditions had the kindness to intrust me with the study of the Mammalian collection. The Mammals have been collected at the following localities, viz.: Manokwari (near Doré); Wendési and Kwatoré (Geelvink Bay); Mios Korwar or Aifondi (N. W. of Schouten Islands); Moaif River and Mawes (Walckenaer Bay); Tanah Merah Bay; Ingrâs, Tobadi, Metu Debi, Tami River and Moso River, Lake of Sentani (Humboldt Bay) and Merauke River.

In a paper on the New Guinea Mammals, in the Notes from the Leyden Museum, 1906, Vol. XXVIII, p. 161, I enumerated 127 species; since Oldfield Thomas described a new *Acanthoglossus*, *A. Bruynii Bartonii*, from Mount Victoria, British New Guinea; *Crossomys Moncktoni*, a new genus and new species of Mice from Serigina, Brown River, N. E. British New Guinea; a new *Uromys*, *U. anak*, from Ifogi, Brown River; and a new *Phalanger*, *Ph. sericeus*, from Owgarra, Angabunga River (near the Aroa River), S. E. New Guinea, meanwhile Foerster and Rothschild described in the "Novitates Zoologicae", 1907, Vol. XIV, p. 506, a new *Dendrolagus*, *D. Matschiei*, from the Rawlinson Mountains, German New Guinea: so that the above number increased with 5, therefore 132 species; however Oldfield Thomas pointed out that *Conilurus papuanus* Ramsay = *Uromys validus*, which brings the number back to 131 species. In the following pages I mention 21 species, among which 2 new *Pogonomys*, so that there have been found up to the present day 133 species of Mammals in New Guinea.

CHIROPTERA.

1. *Pteropus chrysauchen* Peters.

Measurements in millimeters of two adult specimens, ♂ and ♀, preserved in alcohol:

	♂ ad.	♀ ad.
ear	32 . .	32
eye from tip of nostril	30 . .	30
eye from ear	25 . .	25
forearm	170 . .	170
thumb with claw	70 . .	68
second finger	125 . .	125

		♂ ad.	♀ ad.
third finger	115 + 80 + 120 (125)	315	320
fifth finger	117 + 53 + 50	220	220
tibia		80	80
foot		55	55
calcaneum		22	22

General colour black, the black hairs intermixed with shining white ones, especially on the belly; round the eyes yellow brown hairs, also from eyes to sides of nostrils; round the black ears, back of head, nape, shoulders to base of wings yellow brown, more or less continued anteriorly, forming a ring, more visible in the female than in the male. Outer margin of the ear feebly concave beneath the obtusely pointed tip. The hairless wings black, the ditto colored small interfemoral membrane concealed in the centre by black hairs.

Temminck's *alecto* was based upon a specimen from Celebes; the type however seems to be lost, as it was not in our collection when I wrote the *Catalogue* (1888); without the type-specimen however it is very uncertain to understand Temminck's description; Peters studied the type-specimen and concluded it to be the same species as his *chrysauchen*. However this question must be solved; perhaps the best solution is that of Matschie, viz. to call the Celebes-form *alecto* and the eastern-form *chrysauchen*. After a deeper study based upon extensive fresh (alcoholic) material, it may perhaps turn out that the named forms, together with *conspicillatus* and others, belong to one species; the differences in size, color and dentition indeed are very insignificant. It is very likely that the measurements given by Dobson (*Catalogue*, p. 56) of what he called *alecto*, as well as those from Peters' *chrysauchen*, have been taken from dried skins, therefore I thought it important so give a series of exact measurements and a color-description after good conditioned alcoholic individuals.

It seems that this species hitherto has been met with on New Guinea only in the neighborhood of Doré and on the Macluer Bay (cf. my paper on the New Guinea Mammals, Notes Leyden Museum, Dec. 1906, Vol. XXVIII, p. 163). Our adult male and female are from Mios Korwar (N. W. of Schouten Islands), collected July 18. 1903, by the Humboldt Bay expedition.

2. *Dobsonia paliata* Geoffroy.

Two adult female-specimens from the interior of the Humboldt Bay, collected in May 1903 by the Humboldt Bay expedition; one from the Mosso River, the other from the Sentani Lake.

Measurements in millimeters of the two adult female-specimens, preserved in alcohol:

		Mosso-River.	Sentani-Lake.
ear		32	33
eye from tip of nostril		23	23
eye from ear		19	19
forearm		145	140
thumb with claw		57	57
second finger		90	90
third finger	90 (88) + 67 + 102 (90)	259	255
fourth finger	81 + 59 + 65 (60)	205	200

		Mosso-River.	Sentani-Lake.
fifth finger	82 + 48 + 55 (52)	184	182
tibia		70	70
foot		43	40
tail		27	28
calcaneum		15	15

Describing *Cephalotes peronii* (our *Dobsonia paliata*) Dobson remarked (Catalogue, p. 91): "the eye is nearer to the extremity of the nose than to the ear," however from the above given measurements it appears that this is not so, and that contrariwise just the reverse is the real truth. Dobson said: "wing-membrane from the base of the second toe", Matschie (Megachiroptera, 1899, p. 86) observed: "die Flughaut setzt sich an die erste und zweite Zehe an"; both authors are wrong as our alcoholic specimens very clearly demonstrate, for in reality the wing-membrane is attached upon the first toe, nay for a couple of millimeters, by no means reaching the second toe.

The underparts of the wing-membrane between arm and forearm, along forearm and from arm to femur are thickly decorated with white tubercles bearing brownish yellow hairs; I nowhere saw these tubercles mentioned in former descriptions.

Concerning the specific title of our species I observe that I wrote *paliata* and not *palliatata* (Matschie, Dobson and other authors), simply because Geoffroy, the creator of the name, called the animal *Pteropus palliatus* and not *palliatus*; it may be grammatically more correct to write *palliatus* or *palliatata*, however in writing *paliata* I follow the law of priority (Ann. du Muséum d'Hist. nat. XV, 1810, pp. 99 et 100); zoologists generally are no great philologists, especially not since it is not general custom to study latin and greek; happily philologists generally don't care a pin for our writings; and if not so, I fear that but a few of our modern would-be latin and greek words would find grace in their eyes!

3. *Carponycteris nana* Matschie.

An adult female-specimen from Merauke, collected by the „Sneeuw-Gebergte" expedition. The measurements correspond exactly with those in my paper (Revision of the genera *Macroglossus* a. s. o. in Notes from the Leyden Museum, XXIII, 1902, p. 139); the ear measures 12 mm., near the base of the outer margin is a very small lobe.

4. *Hipposideros diadema* Geoffroy.

An adult female from the grotto on the Sentani Lake, collected April 9. 1903 by the Humboldt Bay expedition.

5. *Hipposideros cervinus* Gould.

Three males and one female from the grotto on the Sentani Lake, collected April 9. 1903 by the Humboldt Bay expedition.

6. *Hipposideros calcaratus* Dobson.

17 males and 20 females from the grotto on the Sentani Lake, collected April 9. 1903 by the members of the Humboldt Bay expedition. Not recorded from New Guinea since 1872

(cf. my paper "On the New Guinea Mammals" in the Notes from the Leyden Museum, XXVIII p. 174), hitherto only known from Andai and Doré. The combination of characters is very typical in this species: a frontal sac behind the transverse nose-leaf; no secondary leaflets external to the horseshoe; calcaneum very long und strong, longer than the foot, and a forearm of 50 mm. The measurements given by Dobson seem to be rather very constant, showing very inconspicuous variations.

7. *Leuconoë adversus* Horsfield.

Seven males and four females collected by the Humboldt Bay expedition in the grotto on the Sentani Lake, April 9. 1903, besides an adult female from the Moaif River, Walckenaer Bay by the same expedition, June 29. 1903. These specimens do not give rise to further remarks.

8. *Miniopterus Schreibersii* Natterer.

An adult male-specimen from the grotto on the Sentani Lake, April 9. 1903, by the Humboldt Bay expedition. Measurements of the (alcoholic) specimen in millimeters:

ear	11	fourth finger	56
forearm	40	tibia	17
third finger.	77	foot	9
" " 1st. phalanx	9	tail	47

This so very typical form has an enormous area of distribution, from Southern Europe and Africa through India to China and Japan and over the islands of the Malayan Archipelago to Australia and New Guinea. The lightest colored specimens are generally found in the western countries, meanwhile it seems that the individuals grow darker when eastwards. In tinge is an endless variation (cf. Dobson's remarks on the color of the fur in this species, Catalogue, p. 349).

There is also a rather large variation in size as may appear by the following list of measurements, all taken from our alcoholic specimens:

	Nimes.	Banat.	Creta.	Syria.	Java.	Aru.	Sydney.
	♂ ♂ ♀		♂	♂ ♂ ♂	♂ ♂ ♀	♂ ♀	♂ ♀ ♀ ♀
forearm	46 46	45	43	44 44 45	42 43 43	46 46	46 46 46 48 46
third finger.	92 91	91	90	88 86 92	81 81 81	89 90	90 90 91 92 89
" " 1st. phalanx	12 12	12	12	11 11 12	9 11 11	10 11	11 10 11 12 11
fourth finger	68 67	68	69	65 65 65	63 59.5 61	66 65	66 66 67 70 66
tibia	21 21	20	20	20 20 20	19 17 18	20 19.5	20 20 20 20 20
foot	11 11	10	10	10 11 11	9 9 9	10 10	10 11 10 10 10

Dobson l. c. exhibited a specimen from the Nicobars (forearm 40 mm., 3rd. finger 75 mm.) agreeing with our N. Guinea-individual (forearm 40, 3rd. finger 77 mm.) as smallest form and a Burma-specimen (forearm 50 mm., 3rd. finger 95 mm.) of about the size of one of our Sydney-females (forearm 48 mm., 3rd. finger 92 mm.)! I cannot detect any trace of relation between size and locality, so that for the present we must conclude *Miniopterus Schreibersii* (as so many other Bat) to be a well circumscribed form with a very large geographical distribution.

As I remarked in the Notes L. M. XXVIII, p. 177, there is in the British Museum a specimen belonging to this species, from New Guinea, *perhaps* from Port Moresby. The adult

male from the Sentani Lake is the second individual known from New Guinea and at the same time the first specimen collected in the northern part of that island.

RODENTIA.

Pogonomys.

This genus is typified by mice with a prehensile tail, the terminal part of that organ being quite naked and transversely wrinkled; eight species have been described as belonging to this genus, viz. one, *pulcher*, from D'Entrecasteaux Islands and seven from New Guinea; they present the following measurements according to the original descriptions (in millimeters):

	head and body.	tail.	hindfoot.	ear.
1877 <i>macrourus</i> A. M. Edw.	120	140		
1881 <i>mollipilosus</i> Pet. et Dor.	100	165	26	15
1888 <i>Forbesi</i> O. Thomas.	156	222	30	17
1895 <i>pulcher</i> O. Thomas.	153	225	33.7	17.3
1897 <i>Loriae</i> O. Thomas.	148 (149)	214 (213)	26 (26.7)	15 (15.5)
1897 <i>lepidus</i> O. Thomas.	119 (120)	169 (159)	21 (21.5)	14 (14)
1897 <i>lamia</i> O. Thomas.	111 (118)	161 (158)	24 (25)	17 (17.5)
1904 <i>dryas</i> O. Thomas.	114	184	23.5	15

For the recognition of the species the number and the shape of the palate-ridges is of a very great importance, but up to the present the authors have not paid the attention to it as it merits; the palate-ridges in *P. pulcher* are as in *P. Forbesi* said Oldfield Thomas, and in *P. Forbesi* they are seven in number, 3 anterior undivided and 4 interdental, according to the named author; that is all. Through the kindness of Dr. GESTRO of the Genoa Museum we possess individuals of four species of *Pogonomys* and therefore are able to fill the said gap, at least partly. In these four species the palate-ridges present themselves as follows:

P. Forbesi Thomas. The three anterior ones are undivided; the fore-most one presents itself as a trifolium, the other two are slightly bow-bent. There are *four* interdental ridges, interrupted; the anterior pair curved with the free end backward; the second pair less curved with the free end slightly backward; the third pair with the free end slightly curved forward, meanwhile the fourth pair is very feebly curved with the free end strongly directed forward.

P. lepidus Thomas. The three anterior ones are undivided; the fore-most one trifolium-shaped, the second one looks like an in the middle broken line, the top of which reaches to the mentioned trifolium, the third is slightly bow-bent, feebly knocked in. There are *three* interdental ridges, interrupted; the two anterior pairs feebly curved, the third has the anterior margin somewhat crenated, its halves nearly straight and strongly directed forward.

P. lamia Thomas. The three anterior ones undivided; the fore-most one trifolium-shaped, the other two are feebly curved. There are *three* interdental ridges, interrupted; the two anterior pairs curved, the third also curved with a strong direction forward.

P. Loriae Thomas. The three anterior ones undivided; the first one a nice trifolium, the second one broken in the middle, the top not reaching the trifolium; the third one almost

straight from the anterior molar on both sides. The interdental ridges are somewhat complicated: they are interrupted, the anterior pair has a feeble curvature, the free ends strongly bent backward; the second pair shows on each side a sharply broken angular ridge; the third pair of ridges is reduced to small thickened relicts rather close to the fourth ridge, which is slightly interrupted, curved on the sides, nearly straight in the middle; all the three interdental ridges are more or less crenated, the small relicts of the third pair not crenated. In this species the number of interdental palate-ridges may be supposed to be *three and a half*.

From the foregoing it appears that in the hitherto described *Pogonomys*-species the tail constantly is *much larger* than head and body taken together, moreover that the number of interdental ridges varies from three to four, at least in five among the eight described species.

The Humboldt Bay expedition has collected on the Sentani Lake two mice apparently belonging to the *Pogonomys*-genus, but differing in many points from all the known species; both they have the tail *shorter* than head and body; one has *six* interdental ridges, meanwhile the other one presents a *much greater* number! They certainly merit specific distinction as moreover will be evident from the following descriptions.

9. *Pogonomys sexplicatus* n. sp.

Plate 16.

A single pregnant female in alcohol, collected April 2. 1903 on the Sentani Lake, Humboldt Bay expedition.

Measurements taken from the specimen in the flesh, in millimeters:

head and body	150
tail	135
hind foot	26
ear	13

Hairs very soft to the touch; two thirds of each hair on back and sides of the body colored like our common *Mus rattus*, the terminal third of a fine mahogany; hairs on head shorter, colored like the back; breast and belly with wholly pure white hairs. A blackish ring round each eye. Whiskers like in the other *Pogonomys*-species numerous and very long. Ears normally rounded off above. Tail ringed, scales not overlapping; each scale with a single very short hair, so that the tail looks as if bald; towards the terminal part the underside of the tail is clad with parallel plates, the top of the tail is bald. Hands with four clawed digits, the fifth very small with a blunt nail; hind feet with five clawed toes.

Upper incisors light brown, lower ones white. Molars $\frac{2}{3}$ (fig. 3). The three anterior palate-ridges undivided, the first one a trifolium, the other two feebly curved, in the middle connected with one another and with the trifolium by a very small raised bridge. There are six interdental ridges; the first one connects the proximal margin of the anterior molars by an uninterrupted slightly curved ridge; the three following ones are slightly interrupted, almost straightly run these half-ridges towards the middle of the palate in a forwardly direction; the

fourth and fifth ones show an in the middle broken line; the sixth ridge is curved and crenated.

Some measurements of the skull:

	mm.
occiput to anterior margin of nasalia	34
distance between eyeholes	5.5
canthus to anterior margin of nasalia	12
upper molar-series	7.5
diastema	9.5

10. *Pogonomys multiplicatus* n. sp.

Plate 16.

A single young male in alcohol, procured on the Sentani Lake, April 18, 1903, Humboldt Bay expedition.

Measurements taken from the specimen in the flesh, in millimeters:

head and body	185
tail	165
hind foot	46
ear	19.5

Fur very soft to the touch; hairs on upperparts and sides of the body mouse-color, yellowish brown tipped; on the back there are numerous longer hairs of a glistening black throughout, spread among the other hairs, giving the back a darker hue; middle of head like back, for the rest colored like the sides of the belly; chin, breast and belly of a pure white; hands and feet sooty-colored. Whiskers numerous and very long. Ears broadly rounded off. Tail with rings of not overlapping scales; each scale with a single hair, so that the tail looks quite bald; these scales are of a brownish black color; towards the end of the tail the scales are absent presenting merely their pattern; the top of the tail is without pattern, bald. Hands with four well clawed fingers, the fifth small with a blunt nail; feet with five well clawed toes. Incisors yellow; molars $\frac{2}{3}$ (fig. 6), the third one in each jaw is almost invisible in alcohol, so that the first impression was $\frac{2}{2}$ molars; molars very large and stout, especially compared with those of the other *Pogonomys*-species, the *two* upper-ones measure 9.5 mm. against f. i. in *sexplicatus* with the *three* molars measuring 7.5 mM.; therefore *multiplicatus* when full-grown certainly will attain the size of a large rat, much larger than any other hitherto described *Pogonomys*-species.

More striking still than its size and peculiar color is in our animal the very uncommon number of palate-ridges, really *multiplicatus*, besides the shape of these ridges; there are *three* anterior ridges as usual, the first in the form of a beautiful trifolium, rather quinquefolium, broadly based, the second is a straight ridge somewhat impressed in the middle, meanwhile the third one is slightly curved; these three ridges are connected by a slender raised bridge; this slender raised bridge continues in the middle of the palate to its end, perpendicular upon the last ridge which is a straight one, connecting the posterior margin of the molar-alveoli; from this middle bridge runs a *number of twelve* flattened ridges to the molars, the anterior ones broad, diminishing in breadth towards the posterior end of the palate, in such a man-

ner that the anterior broadened ridges are rather deeply curved; this curvity diminishing in the following ridges, so that the posterior or hindmost ridge is straight as I already mentioned. I hope that this description may give a rather good impression of the remarkable complicated structure of these interdental ridges; fig. 6 may aid in unravel the thing. As I remarked we only possess a single young male to base the description upon, therefore it may be that more material will give rise to separate our animal generically from *Pogonomys*, but for the present I think that a premature new genus-name serves no useful purpose.

Some measurements of the skull:

	mM.
occiput to anterior margin of nasalia	48
distance between eyeholes	9
canthus to anterior margin of nasalia	17
upper molar series (2 molars!)	9.5
diastema	13

11. *Mus rattus* Linné.

Of this fine omnipresent animal there is in the Humboldt Bay expeditions' collection a single young adult male, collected on the Sentani Lake, Humboldt Bay, April 7. 1903.

12. *Mus Browni* Alston.

- 2 males, 2 females, from Sentani Lake, 7 and 8 April and 3 June.
 4 males, 7 females, from Metu Debi, 27 April and 2 May.
 6 males, 9 females, from Tobadi, 29 and 30 April.
 5 males, 4 females, from Ingräs, 4 May.
 (?) 2 very young specimens, from Manokwari, 21 May and 30 June.
 2 males, 1 female, from Mawes, 12 June.
 3 males, 4 females, from Wendësi, 30 July.
 (?) 2 very young specimens, from Merauke.

I compared these individuals with two males and two females, collected by Mr. Loria in September 1880 at Aroma, British New Guinea, kindly presented to our collection by Dr. GESTRO from the Genoa Museum, and with Alston's description of the type-specimens (P. Z. S. L. 1877, p. 124), and I fail to detect any important difference, although there seems to be a very great variation in length of the tail; here are some measurements in millimeters:

	head and body.	tail.	ear.	hindfoot.
Sentani Lake	150		16	27.5
	140		16	27
Metu Debi.	145	127	16	27
	135	137	16	28
	105	116	16	26
Tobadi.	156	147	16	28
	140	137	16	25.5
Ingräs.	162	150	17	28
	150	151	17	28
Mawes.	125	124	15	26
Wendësi.	137	150	17	29
	135	137	16	27
	150	140	17	27
	114	122	14	25

Female with 8 mammae. Tail with very short stiff, dark colored hairs; three hairs from each scale, the midmost somewhat longer than the other two, which have the length of the scale; these hairs grow somewhat longer towards the end of the tail.

This mouse seems to be very common everywhere along the coasts of New Guinea, c.f. my paper "On the New Guinea Mammals" (Notes Leyden Museum, vol. XXVIII, 1906, p. 181).

MARSUPIALIA.

13. *Phalanger maculatus* E. Geoffroy.

Plate 16.

a. adult male, Tami River, 13 May 1903.

b. young female, Humboldt Bay, 25 March 1903.

c. adult male, Tawarin, 18 June 1903.

d. adult female, Wendési.

e. young male, with skeleton, Merauke.

f, g. upper jaw, near Sentani Lake, and lower jaw, Tobadi, Humboldt Bay.

As a rule the measurements recorded as having been taken from these animals are not very trustworthy the skins being dried ones or stuffed; therefore I take advantage of the opportunity of disposing of fresh (alcoholic) specimens to give some measurements of the adult male from the Tami River, Humboldt Bay, taken in the flesh:

	mill.
head and body	645
tail	578
hairy upperparts of tail	230
hairy underparts of tail	110
nose to ear	90
nose to eye	43

The skull of this enormous animal presents the following measurements:

basal length	97
greatest breadth	70 ¹⁾
nasals, length	42
palatal length	57
length of the four upper molars	26

The molars are *not at all* used, so that the animal had not yet attained its full size. How extremely variable these measurements are, grow evident by comparing the young adult skull from the Tami River-individual with the skull of an adult adult male-specimen from Schouten Islands (Geelvink Bay), in our Museum, almost albino with *very* used molars and nearly vanished sutures; greatest breadth 66 mM., nasals, length 34 mm., and the four upper molars 25 mM. (the skull being partly smashed, I cannot record the basal length nor the palatal length). Still smaller dimensions presents the skull of an adult adult female-specimen,

1) The partly smashed skull of an adult male, from Hatam, N. G., in our collection, has still stouter dimensions, viz.: greatest breadth 74 mM.; nasals, length 44 mM.; upper molars 27 mM.

collected by Bernstein in Waigëu, viz.: greatest breadth 57 mm., meanwhile its upper molar series has the usual length of 26 mM. — in this skull the molars also are *very* used and the sutures almost invisible. I did not point out the thing with the intention of proposing new specific names for these Schouten Islands and Waigëu-specimens, convinced as I am that they, as well as the larger New Guinea-specimens, are offsprings from animals once inhabiting the large continent of which at present we see the scattered "débris", but I did so in order to fix the attention upon the very important and interesting question, namely in how far perhaps other kind of food, an island climate and long isolation may have influenced, and this is a question not to solve in our Museums and on dead material, but a matter of interesting observations to future naturalists *in loco*.

I now wish to say a word concerning the not hairy parts of the tail of our animal; it generally has been called *naked*, *beset with callosities*, *with fleshy pads* a. s. o., but it never has been practically studied and described. And it merits fully a closer examination as being at the same time a climbing, a supporting and a prehensile organ. A study of this organ will show that it is *not* naked, *not* beset with callosities and *not* with fleshy pads. The not furry underpart of the tail is practically flat, slightly concave in its middle, the proximal half is beset with large tubercles, the distal half not; these tubercles have an oval shape and are surrounded by a ring of smaller ones, of which the proximal ones are smallest sized; there also are small and large tubercles; each large tubercle bears a transversal harsh half oval kind of small nail, so placed that the edge is directed towards the body of the animal (fig. 11); of such large tubercles there are several in a row, meanwhile the rows alternate, so that we see here the type of an excellent climbing organ as well as an organ for support, the tail always being used in a curling condition and the above described small nail-like organs therefore standing in a somewhat erect position towards the object roundabout it curls itself. The mentioned rows continue on the sides of the tail, abruptly stopping where the furry upper part of the tail begins, and further along the sides and upperparts of the tail, however in such a manner that the large tubercles diminish in size and lose their sharp edges towards the extremity of the tail, meanwhile finally the above mentioned wall of small tubercles is wholly absent. Here and there some small hairs are spread between the large tubercles. The distal under part of the tail is divided by transverse furrows in a number of parts, not unlike the proglottids of a tapeworm; these broad sections are clad with numerous parallel running wrinkles, the margin of each wrinkle turned towards the extremity of the tail; we meet here with the type of a very pliable excellent prehensile organ. This tail presents the following number of vertebrae: thorac. 13, lumb. 6, sacral. 3 and caudales 30.

14. *Phalanger orientalis* Pallas.

- a. young specimen, Sëkä, near mouth of Tani River, 5 May 1903.
- b. adult female, Manokwari, near Doré, June 1903.
- c. half grown male, Tanah Merah Bay, died 1 August 1903.

These specimens do not give rise to special observations. It is very likely that, considering the enormous size of New Guinea, there are to distinguish a lot of local forms of *orientalis*, however I think we need larger collections, and I am of opinion that as yet it is

safer to include all specimens from that island provisionally under one head, later on the group can be worked out in its entirety.

15. *Petaurus papuanus* Thomas.

- a, b.* adult male from Merauke, and a skin with skeleton of an adult specimen.
c, d. adult male and female, Humboldt Bay, June 1903. They lived in the Amsterdam Zoological Garden, where they died February 1905; they bred a young.
e. male, in December 1904.

Although it seems very probable that there are some differences in the specimens from the different islands they inhabit and perhaps also between specimens from the different parts of New Guinea, I think it at present not wise to distinguish them by specific names, for the very reason we did not in *Phalanger orientalis*.

16. *Distoechurus pennatus* Peters.

An adult female, collected May 20, 1903 on the Humboldt Bay, may be called the pride of the collection. It seems to be everywhere it lives a rare animal, moreover to be confined to New Guinea. It is known from Andai, the Astrolabe Mountains and the Ethel River; therefore our new locality is of a very great importance. Evidently the study-material is by far too small to decide the question of local forms; I remark that a male-specimen, in our collection, mentioned by Oldfield Thomas in his catalogue of Marsupials, is much larger than an Andai-specimen. Dr. SEMMELINK cannot say from what part of New Guinea he procured it; it certainly however comes from the Dutch half of the island. Ramsay mentions adults and young ones from the Ethel River (*Phalangista pinnata*) and stated that the young resemble the adults; the white stripe down the forehead, however, is proportionally broader.

The tail of our Humboldt Bay animal measures 137 mm. Towards its end the under-part of the tail is absolutely hairless, like the obtuse end, however wrinkled; it evidently is an organ for touch and probably slightly prehensile, evidently much more than the tail of *Acrobates pygmaeus* from Australia, as it is not laterally fringed at the extreme end like in the latter species.

17. *Dendrolagus inustus* Müller et Schlegel.

There are in the collection two specimens in alcohol, a male and a female, both from Kwatoré, Geelvink Bay, collected August 1903. The male is an enormous animal, as it presents the following measurements:

	mm.
head and body	580
nose to eye	52
" to ear	114
tail (extremity is wanting)	820
hind foot without nail	140
" " with nail	159

These measurements have been taken from the animal when in alcohol; after having

extracted the skull it appears to be a non adult specimen, the hindmost molars being still in their alveoles; the skull has a basal length of 98 mm.

greatest breadth	57	”
length nasals	43	”
palate	59	”
diastema	17.5	”

A skull, of an adult specimen collected at Muris, July 6. 1903, is still much larger, viz:

basal length	111	mm.
greatest breadth	68	”
length nasals	44	”
palate	65	”
diastema	22.5	”

The skeleton of the Kwatisoré-*male* presents 13 ribs, 13 thorac., 6 lumb., 2 sacral. and 29 caud. vertebrae — as I remarked before, the tail has its extremity wanting —, in the Kwatisoré-*female* (a still younger animal) the tail has 31 caudals.

A very remarkable structure has hitherto been overlooked, namely adult animals have the upperside of the base of the tail destitute of hairs; I find this very constantly so in our typical specimens and also in the specimens from the collections of the British Museum, which I had the pleasure of looking through thanks the well known kindness of my friend Oldfield Thomas. Dr. ROTHSCHILD in his paper on *Dendrolagus maximus* (Novitates Zoologicae, 1898, p. 511) said in a note on the bottom of that page: „on upperside of tail near the root is a large nearly circular naked cushion of a black colour, and corrugated and granulated like the soles of the hindfeet.” Hereafter it will grow clear that this statement is not exactly agreeing with the reality. It is a very curious fact that not all species belonging to the genus *Dendrolagus* present the mentioned bald spot, f. i. *D. Lumholtzi* has on the contrary there long hairs like on the rest of the tail, however marked by a very conspicuous darker patch. Without fresh adult specimens it cannot be made out whether we have here before us the effect of glands; and as yet there cannot be put a hypothesis as to the question whether it may perhaps have something to do with the manner-of-living of the animal; hereabouts I remark that I discovered the bald spot also in *Dorcopsis*-specimens; now it is well known that *Dendrolagus* is a *Tree-Kangaroo*-genus and *Dorcopsis* a *Ground-Kangaroo*-genus! I therefore now content myself with describing the facts. By removing the very long hairs of the tail in our specimens, we see that the tail is like a rats-tail clad with scales, and so we can understand why the bald spot always is and must be scaly and cannot have a corrugated and granulated appearance like the soles of the hindfeet, if the tail itself is scaly. In young specimens the tail all over is densely covered with elongated hairs, later on the hairs disappear on the above mentioned spot just beyond the base of the tail, in male- as well as in female-specimens.

18. *Dorcopsis Hageni* Heller.

Plate 16.

Dr. B. HAGEN collected at Stefansort, Astrolabe Bay, German New Guinea, a male and a female-specimen distinguished from all known forms by a light colored stripe along the

back. Heller has described them as a new species, *D. Hageni*, in Abh. und Ber. d. K. Zool. und Anthr. Ethn. Museum, Dresden, 1896/97, Bd. VI, No. 8, p. 7. Notwithstanding it is now ten years since the species has been discovered, nobody has collected other specimens; now it therefore is very interesting that the Humboldt Bay expedition had the good luck to shoot two other specimens, females, one at the Sentani-Lake, June 21. 1903, the other at the Humboldt Bay, July 8. 1903. As Heller observed the female is much smaller than the male; of our largest female, the Humboldt Bay-specimen, the measurements are the following:

head and body	580 mm.
tail	355 "
ear	45 "
eye to nose	55 "
ear to nose	108 "
hind foot	121 "
hind foot with nail	135 "

These measurements have been taken from the specimen when in alcohol.

The dimensions of the skull are:

condylo-basilar length	105 mm.
condylo-basal	101 "
basal	102 "
basilar	99 "
greatest breadth	52.5 "
nasals, length	45 "
palatal length	63 "
palatilar length	60 "
diastema	22 "

The skeletons present 13 ribs, 13 thorac., 6 lumbar, 2 sacral and 21 caudal vertebrae.

I add to Heller's description of the color of this so extremely soft-haired animal, that the top of the tail is white.

The tail itself needs some closer inspection; this organ is clad with scales solely towards the end, where the hairs grow shorter and shorter so that the extreme tip is scaled all round; between these scales a few very short scattered hairs; like in *Dendrolagus* there is a bald spot just beyond the base of the tail, however as the proximal part of the tail is *not scaly* but only *wrinkled*, so this large and broad naked spot also has a *wrinkled* appearance (fig. 10). The hairs along the upperpart of the tail look like an elevated crest, a result of the gutterlike impression along the sides of the tail, so that the latter by cross-section shows the form of an hour-glass; the hairs of the crest along the tail are longer and darker colored than those on its sides and base.

19. *Halmaturus agilis* Gould.

Three young individuals from Merauke belong apparently to *H. agilis*.

Skeleton with 16 ribs, 6 lumbares, 2 sacrales and 26 caudales.

20. *Perameles moresbyensis* Ramsay.

One adult male and two ditto females have been collected at Merauke.

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21. *Sus papuensis* Lesson.

A very young specimen, from Tarfia, July 15. 1903. The reddish brown stripes are well developed; terminal half of tail white.

There are finally in the collection of the Humboldt Bay expedition several skulls without lower jaws, in more or less poor condition, being found on the sea-shore, in March 1903, partly bleached; and 5 lower jaws from Mapar, Manikion-country, March 1903, besides 2 lower jaws from Tobadi, March 1903. They all once belonged to Pigs. They fairly well agree with my figures of adult skulls of *S. papuensis* (Notes Leyden Museum, 1905/6, Vol. XXVI, plate 13), adult skulls however of *Sus niger* I never saw.

EXPLICATION OF PLATE XVI.

Figs. 1, 2 and 3. Skull of *Pogonomys sexplicatus* Jentink.

Figs. 1 and 2 natural size, fig. 3 enlarged.

Figs. 4, 5 and 6. Skull of *Pogonomys multiplicatus* Jentink.

Figs. 4 and 5 natural size, fig. 6 enlarged.

Figs. 7, 8 and 9. Skull of *Dorcopsis Hageni* Heller.

Fig. 10. *Dorcopsis Hageni* Heller. Spot beyond base of tail.

Fig. 11. *Phalanger maculatus* E. Geoffroy. Part of underside of tail.

